

# **The Kepler problem with allowance for modification of the gravitational potential in the expanding universe with a collisionless gas**

Zakharov A., Mukharlyamov R.

*Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia*

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## **Abstract**

The paper deals with the solution to the Kepler problem for the gravitational potential of a point mass with allowance for the presence of collisionless particles in the Universe [3]. The estimates are reported for the Solar System planets and for the Sgr A object which is assumed to be a supermassive black hole at the center of the Milky Way [1]. © 2005 Springer Science+Business Media, Inc.

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